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INTRODUCTION

This document is the final plan for management of the State's ownership in T 15, R 9 WELS , Deboullie Township. It has been designed to meet the requirements for multiple use management plans as set forth in Title 30 M.R.S.A. ss 4162, and it is consistent with the Planning Policies adopted June 1985 and Integrated Resource Policies adopted December 1985 by this Bureau*

The purpose of this plan is twofold. First and foremost, it f% is a commitment to the public, which owns these lands, that the lands will be managed well and in accordance with the law. As such, this plan has been designed to be readily understood by all of the using public*. In this plan the Bureau also commits to P make significant changes only after providing opportunity for further public participation.

Second, this plan is a directive to the Bureau staff; it should provide clear goals and direction for them to follow in fulfilling their responsibilities. This plan is written to permit professional managers a measure of flexibility as to how these goals should be accomplished. (As outlined in the Planning Policies, all such detailed management decisions will undergo interdisciplinary review as prescriptions to compartments of Deboullie are outlined in the Map on Page 4.)

Because forest management objectives frequently require long c, periods of time to achieve, this plan has been written to be ^ effective for many decades. However, the Bureau's Policies call for review and updating of this plan within ten years.

Finally, the Bureau wishes to acknowledge the helpful participation of many Maine citizens in the development of this plan. Through the assistance of the Citizen Advisory Group (listed in Appendix B) and through the many comments received in response to the draft plan, the Bureau has heard and incorporated many constructive suggestions from Maine people. We thank those persons for their assistance, and we appreciate the importance of their contributions.



ROBERT H. GARDINER, JR.
Director, Bureau of Public Lands
January, 1987

SECTION I - CHARACTER OF THE LANDBASE

A. OVERVIEW

The Deboullie Management Unit is a remote area of extraordinary beauty, encompassing steep mountains, crystal clear ponds, fragile plants, exceptional fisheries and abundant recreation opportunities.

Historically, the township has been used for both timber and recreation. The first recorded timber harvest dates back to the mid-1800's; harvests have continued at intervals since, the most recent extensive harvest occurring in the 1960's. This logging history has left a system of roads which have been used in recent years by recreationists, primarily for fishing in Deboullie's lakes and ponds. A commercial sporting camp, Red River Camps, located on Island Pond, has operated for

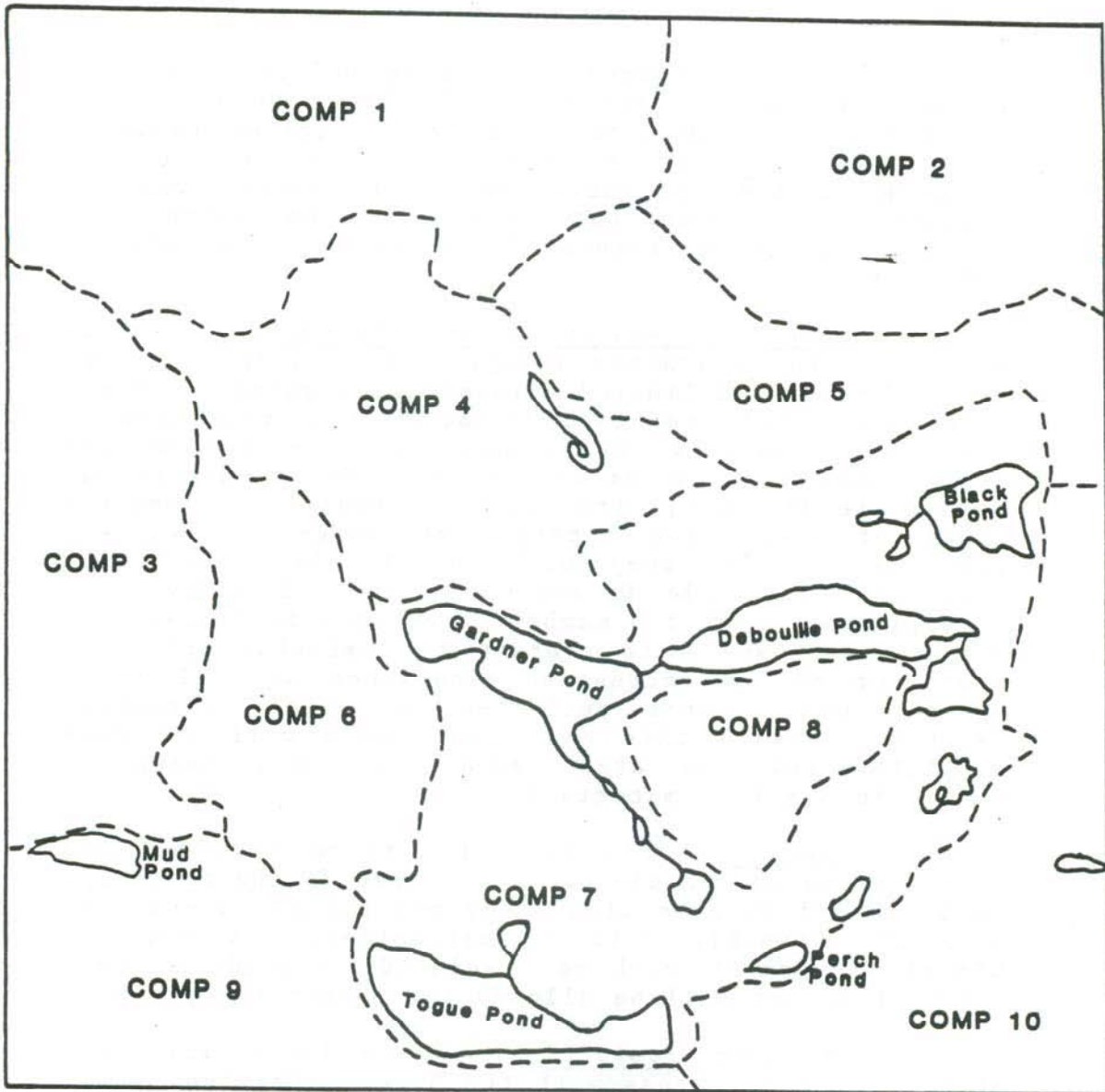
many years, catering to the needs of fishermen and hunters. A number of primitive campsites, most of them accessible by vehicle, are managed by the North Maine Woods Association. Many of the ponds are accessible by vehicle, but others have been limited to walk-in access only. In general, public use has been of low intensity, largely because of the difficulty of gaining access.

Most of the Township is covered by a healthy and productive forest that grows excellent quality timber at growth rates considered average for Northern Maine. Because the township was heavily logged in the late-1950's and 60's, the distribution of age classes in the forest is far from balanced. As a result, the full range of habitats for wildlife is not available. Thus, while there is a variety of wildlife, it is not as diverse as it might be for lack of forest acreage in the younger age classes.

The fisheries in Deboullie are considered exceptional and vulnerable • to excessive fishing pressure. Wild brook trout dominate most of the ponds, and four ponds are habitat for the rare blueback trout.

Other unusual natural resources are related to the steep terrain, including rock talus slopes from which the unit derives its name. In French, "deboullie"¹¹ means rock slide. The rock slides and steepest cliffs provide settings for a number of rare plants, while the steep slopes have protected pockets of old-growth timber from past logging activities.

These mountains, along with most of the ponds and other interesting and beautiful features, are concentrated in the southeast quarter of the township, that area south of Deboullie and east of Gardner Mountains*. Public use has always been heaviest in this area. The rest of the township is less spectacular and is little used by the public. Thus, the southeast quarter is a far more sensitive area to manage and will be treated quite differently, as outlined in this plan.



COMPARTMENTS

DEBOULLIE MANAGEMENT UNIT
PUBLIC RESERVED LANDS SYSTEM



----- COMPARTMENT BOUNDARIES

SECTION II - KEY MANAGEMENT ISSUES

This plan addresses the entire multiple use management program for the Deboullie Unit. There are six major issues which constitute the principal focus of this plan. Because of the nature of multiple use management, the resolution of these issues will be addressed throughout, but the plan has been structured to address these issues in different sections as follows:

1. Publicity and Public Use Pressure. Deboullie has a special character today. Its natural beauty, good fishing, and limited evidence of logging and human development have combined to make it a very unusual area that appeals to people who appreciate the traditional Maine woods experience. Great concern has been expressed that, with State ownership will come new types of management catering to larger numbers of people, and that they will unwittingly trample the qualities that make Deboullie so special today. In this plan we present a number of changes in management, but our purpose is to protect the existing primitive character of the recreation experience as well as to protect the natural resources on which recreation depends. Toward this end, the Bureau will not seek publicity for the area beyond providing essential public information materials.
2. Access. Until recently, there have been no restrictions on vehicle use and access in the township. As explained in this plan, only one public access road into the township will be maintained. Access for timber management will be developed as needed. Foot and boat access will be allowed throughout the parcel.
3. Resource Protection. Except for registration of several small areas with the State's Critical Areas Program and certain restrictions on fishing, there are no formal provisions for protection of vulnerable natural resources and scenic values today. The Bureau will work with the Department of Inland Fisheries and Wildlife to protect the exceptional quality of the fisheries. A large area around the mountains and ponds will be designated as a no-timber-harvest zone to protect its special natural and recreational values.
4. Recreation Use. Most recreation use has been limited to fishing and camping in recent years. The difficulty of access over rough roads has prevented most problems associated with overuse, but road improvements and increased public awareness of the township may increase user pressures on the resources. In this plan, the Bureau will establish areas where vehicle access will be relatively easy and facilities will be managed to allow for moderate levels of use; other areas will be designated off-limits to all vehicles and more primitive recreation facilities will be provided. Expansion of a hiking trail network will provide an additional recreation feature to users of the area.
5. Wildlife Habitat Improvement. Existing habitat conditions, although suitable for broad species representation, are not sufficiently diverse to accommodate potential levels of wildlife populations. Under this plan, forest management activities will create upland habitat conditions that should support considerably greater populations of many wildlife species. Fisheries will be managed to protect and maintain the existing quality in the face of increasing fishing pressure.
6. Silviculture and Marketing. Timber management in this unit currently suffers from a lack of markets to absorb low value species (particularly hardwood). Over time the Bureau will work to improve marketing opportunities for all species to enable the economical removal of lower quality timber, the management for higher value products, and the development of more productive wildlife habitat. There is also a need to restructure age-class distribution in all species for sustained, long-term harvesting.

SECTION III - RESOURCE ALLOCATION

The Bureau's multiple-use management system is based on the allocation of areas for specific uses. Because of the nature of multiple-use management, these areas may overlap, creating zones where management is designed to accommodate a variety of uses. In such areas, the objectives for each type of use will be defined. In order to avoid conflicts, a dominant use will be identified; this dominant use will take priority over all other uses, which become subordinate uses. Where a use is planned to be subordinate, it will be managed to the greatest extent possible without interfering with the dominant use.

The dominant use will be determined according to the level of sensitivity. In other words, the use which requires the more careful management will dominate. The following list indicates the priority sequence for establishing dominant use.

(1) Special Protection. Habitat for rare plants,^v some areas of old growth forests, endangered animal species habitat.

(2) Backcountry. Low intensity recreation areas where motorized vehicles are prohibited.

(3) Wildlife Management. Wetlands, riparian zones, deeryards, special habitats.

(4) General Recreation. Campsites, boatlaunches, trails and areas of more intense public use.

(5) Visual Zones. Areas where recreation will not occur directly as in backcountry and general recreation zones, but where timber management could adversely affect recreation use (e.g. corridors along access roads; slopes on the other side of a pond from a campsite•)

(6) Timber. Where no other zone has been applied, as long as it is suitable for timber production under the Bureau's general management standards.

The maps in the following section describe the areas according to wildlife, recreation, and timber zones. No single map exists to show the dominant use. Dominant uses must be understood according to the above priority list.

SECTION IV - RESOURCE MANAGEMENT & COORDINATION

In this section, management for* each type of use will be described, and maps will show the areas defined for such uses. It is important for the reader to keep in mind that a particular acre may be used for more than one purpose. In such cases, the dominant use will be determined by priority as explained in Section III.

The areas delineated on the maps are subject to only minor adjustment by Bureau personnel without formal changes in this plan. Under each section, appropriate management actions will be described for each use as if it was the dominant use. Where the use is a subordinate use (for example, general recreation or timber management within a deeryard) management will be modified to accommodate the requirements of the dominant use. For convenience in this plan, management actions will be described in the following sequence: Special Protection and Wildlife, Recreation, and Timber. Transportation and Special Uses will be described last.

SPECIAL PROTECTION AND WILDLIFE AREAS (ref. to map on page 9)

A. SPECIAL PROTECTION

(1) Description of Resource. The Deboullie Management Unit supports a variety of rare species of flora and fauna which further enriches the natural diversity of this township. Some, through previous studies, have been placed on the State Register of Critical Areas; others remain candidates subject to further study.

Listed on the State Register of Critical Areas

<u>Location</u>	<u>Feature</u>	<u>Acres</u>	<u>Identifier</u> See map Pg 9
Deboullie Pond	Blueback Trout	266	
Gardner Pond	Blueback Trout	288	
Pushineer Pond	Blueback Trout	55	
Black Pond	Blueback Trout	147	
Deboullie Cliffs	Talus Slope	10	P-2
	Slope Arctic Sandwort		
(North shore Deboullie Pond)	Fragile Fern		
	Rusty Woodsia		
	Bell Flower		
	Rock Tripe	5	P-1,3
	Dog Lichens		
	Willow Herb		
Gardner Mountain	Talus Slope	15	P-5
SubTotal		786	

Candidate areas subject to further study:

The areas identified below are the result of field work undertaken by the Critical Areas program in 1985, following enactment of C. 34 Resolves of 1983, directing the State Planing Office and the Bureau of Public Lands to Cooperate in a study of old-growth forests and unique alpine areas. Subject to further staff analysis, the Bureau will forward recommendations on these areas to the State Planning Office:

<u>Location</u>	<u>Feature</u>	<u>Acres</u>	<u>Identifier</u> See Map Pg 9
Gardner Mtn	Oldgrowth Spruce/Fir	48	01
Galilee Pond Denny	Oldgrowth Spruce/Fir	23	02
Pond Whitman Mtn	Oldgrowth Spruce/Fir	8	03
Whitman Mtn (S)	Oldgrowth Spruce/Fir	34	04
Whitman Mtn (N)	Oldgrowth Spruce/Fir	30	05
Mud Pond	Lady Slippers	10	P-4
Subtotal		163	

(2) Dominant Use. As previously indicated, this is a protection zone. It is comprised of areas and which include more delicate and unusual features which add depth and character to the resource base. Consequently, the Bureau will coordinate program development in these areas with the Department of Inland Fisheries & Wildlife and other appropriate agencies to ensure that the particular species and features are preserved. This includes regulating access to sensitive plant habitats, monitoring and regulating fishing pressure on the blueback trout ponds, and inclusion of most of these areas in a general "no-timber-harvest" zone (see "Timber" section). This last provision represents a divergence from the Bureau's normal policy for riparian (shoreland) areas, where it seeks to maintain diversity for wildlife by selection harvesting. Around the blueback ponds it appears more important to maintain the area in an undisturbed condition than to modify habitat conditions for wildlife.

(3) Secondary use• Recreation is the most appropriate secondary use in these areas; however, it will be restricted to hiking trails and widely dispersed foot- or water-access campsites. Wildlife management will be restricted to protective measures.

B. WILDLIFE

(1) Description of the Resource. Wildlife resources in Deboullie Township are comprised of several distinct elements. The native fishery, which includes brook trout and blueback trout, is certainly the major reason for the historical patterns of use which have developed here. In few other locations is it possible to find such an array of fishing opportunities --or to enjoy them under such remote and beautiful conditions. However, there are also a number of other habitat situations which are important to the wildlife of this area. These include riparian zones (a 330-foot strip of shoreland vegetation around ponds and wetlands and along and major streams); potential deeryards along Fifth Pelletier and Rocky Brooks; existing and potential old growth timber; and numerous small wetlands and bogs. Overall, however, habitat conditions in this township are characterized by the presence of pole-sized stands of timber (both hardwood and softwood) --and until available markets will support more extensive harvesting, many of the wildlife species (deer, moose, snowshoe hare, grouse, etc.), which rely on diverse forest conditions, will occur only in limited numbers.

(2) Dominant Use.

(a) Fisheries. All of the open water not listed for special protection is allocated for wildlife, the primary purpose of which is the management of existing wild, native fisheries. Management will require coordination with the Department of Inland Fisheries & Wildlife and particularly, restricting access and development to levels which will not adversely affect the resource. Of a more specific nature, the Bureau will maintain the existing barrier dams on the streams flowing from Crater Pond and Perch Pond into Togue Pond to keep undesirable fish species from migrating into these ponds. Also, the Bureau may, subject to DIF&W recommendations, rebuild the abandoned dam at the outlet of Pushineer Pond to maintain optimum water levels for spawning.

Within the objective of maintaining a high-quality primitive fishing experience in Deboullie, there is room for different management goals for different ponds. The four blueback trout ponds should be carefully monitored to maintain the healthy populations that exist today. Ponds in the "general recreation" zone are both appropriate for and likely to receive heavier fishing and public use pressure. Ponds in the "backcountry" zone may need more protection against overfishing and are generally more appropriate locations for management of wild, as opposed to stocked, fisheries. All fisheries management decisions and actions will be undertaken with the cooperation of DIF&W.

For some years DIF&W has stocked Togue Pond with salmon, creating a popular and successful fishery.

The Bureau supports continuation of this program. Stocking brook trout at other ponds may also be appropriate to maintain good fishing. It is important to maintain the existing quality of fishing in order to preserve the high quality recreation experience for fishermen.

Towards this end, the Bureau may seek changes to tighten the Department of Inland Fisheries and Wildlife's regulations to maintain the fishing quality if fishing pressure increases. In particular, the Bureau may seek lower bag limits on those ponds which show loss of fisheries quality if creel census information indicates such trends. Already today, Black Pond is suffering from low brook trout populations, according to recent fisheries surveys. Black Pond has historically provided trophy-quality fishing opportunities. The Bureau may suggest "catch and release" fishing requirements to maintain fishing quality in Black Pond and other ponds, such as North Little Black Pond. Restrictions on access to Black Pond by aircraft may become necessary to protect the fishery.

(b) Riparian Zones. Except for those shoreland areas which are included in the allocation for special protection, the shores of all ponds and major streams are designated as Riparian Zones. All other streams are protected under zoning standards (P-SL2) of the Land Use Regulation Commission. Riparian zones are comprised of a 330-foot strip of shoreland vegetation, the primary purpose for which is wildlife habitat management. This zone is subject to active timber harvesting (selection and group selection removals) to enhance diversity in terms of both age- " class and specie.

(c) Deeryards. There is no documentation of deer wintering areas in the township. The softwood stands along Rocky and Fifth Pelletier Brooks have many of the characteristics of deeryards and show potential for management to benefit deer populations. The Bureau will assess this potential before making management decisions, but will tentatively set these areas aside for management as deeryards.

(d) Old-Growth. Old-growth trees are an important element in overall habitat structure, providing both food and cover for insect eaters, cavity nesters and others. As provided in existing policy, old- growth will be maintained and in those large portions of the backcountry zone where timber will not be harvested. Riparian and General Recreation Zones and --to a lesser extent-- General Timber Zones will provide additional area for old-growth, either in small stands or as individual trees.

(e) Wetlands. The small, scattered wetlands in this township offer few opportunities for active management. However, to the extent that they represent additional elements of diversity, they will be maintained, in conjunction with the surrounding riparian zone, for wildlife purposes. Particularly, the Bureau will manage surrounding woodlands, as appropriate, to produce forage for existing beaver colonies.

(3) Secondary Use. Recreation and timber management are both important secondary uses in most wildlife zones. In the first instance, good hunting and fishing are among the benefits of proper management. Timber harvesting is one of the key management tools for upland habitat development and maintenance.

C. WILDLIFE MANAGEMENT OF ALL OTHER AREAS

Throughout the rest of the township, (areas- not shaded on the map on page 9) wildlife habitat will be managed under the general guidelines for forest management activities. These are described in the Bureau's "Integrated Resource Policies" and include requirements to create diversity of vegetation, to preserve den trees and snags for wildlife, and for the staff biologist to make specific recommendations

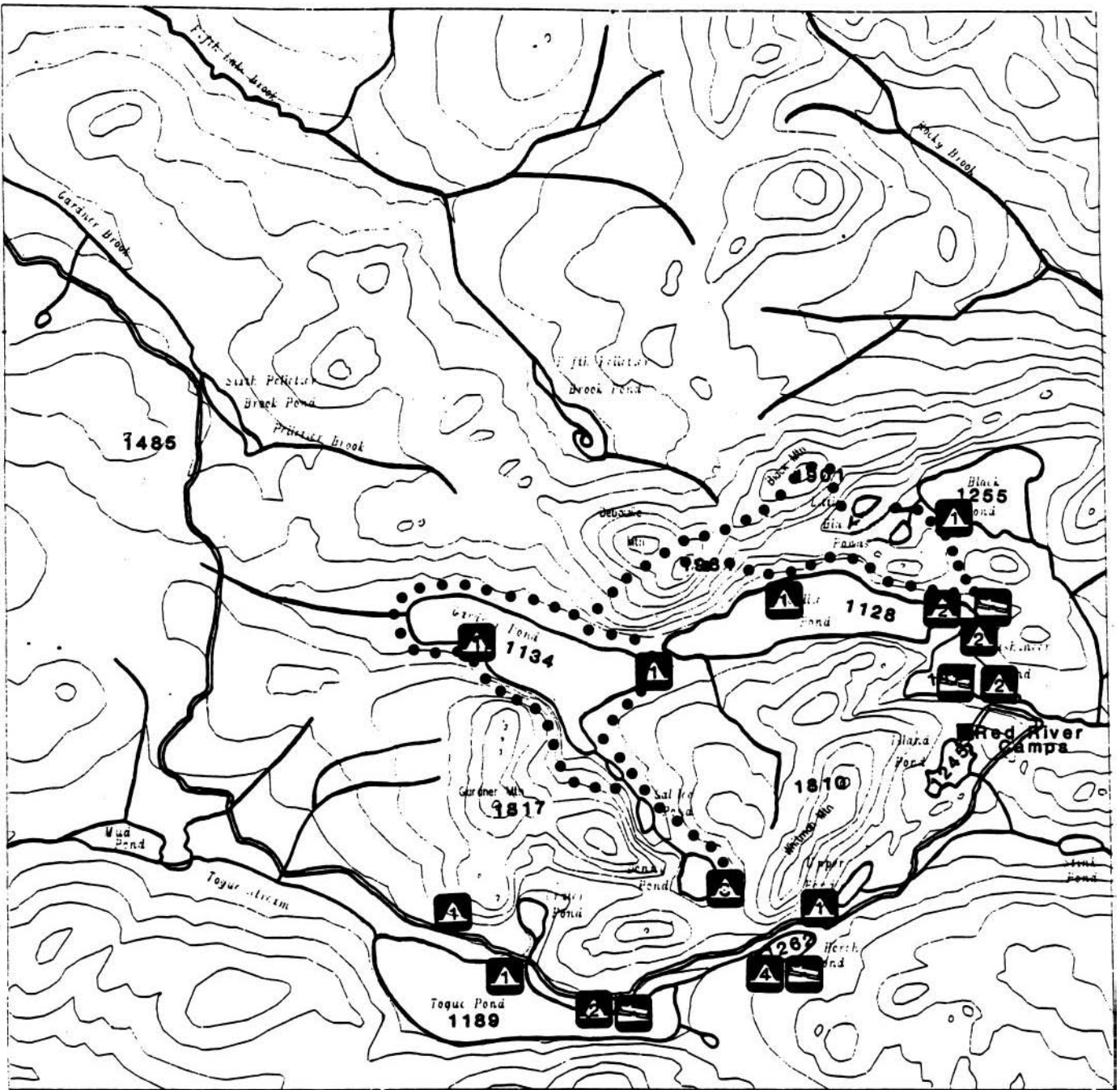
for wildlife habitat improvements as he identifies opportunities. The timber management objectives (described later in this plan) include diversification of age classes which should enhance wildlife habitat.

RECREATION USE AREAS
(refer to maps on page 15 and 16)

A. BACKCOUNTRY

(1) Description of Resource. This zone is comprised generally of the mountains and ponds in the southeast quarter of the township, which lie to the north of the Deboullie Road. It envelops almost all of the critical areas in this unit, including the blueback ponds --and extends, as well, to those ponds to which vehicular access is prohibited. This is an area, as noted earlier, of outstanding natural beauty -- and, although there is much evidence of past harvesting, the area has retained its essentially primitive and unspoiled character. The sense of solitude which exists here is one of the unit's principal values -- as is the native trout fishery, which is also protected by the area's remoteness. At present, there are only two campsites in the Backcountry Zone, located at the base of Deboullie Mountain and on the east shore of Gardner Pond. Included among the features of the backcountry are:

Scenic Overlook	Deboullie Mountain	A spectacular view from the Deboullie Mtn firetower served by a trail that starts at the east end of Deboullie Pond, extends 2.5 miles along the north shore and up the Mtn.
Talus Slopes	Base of Deboullie & Gardner Mountains	Decaying granite, broken away from the face of the mountain by water and ice.
Ice Caves	North Shore of Deboullie Pond	Small openings in rock crevices, the interior walls of which will sustain frost into the summer months.



RECREATIONAL FACILITIES

DEBOULLIE MANAGEMENT UNIT
PUBLIC RESERVED LANDS SYSTEM

	CAMPSITES (numbers in symbol denote number of campsites in area)
	BOATLAUNCHES
	HIKING TRAIL

(2) Dominant Use* The dominant use within this zone is primitive foot- and water-access recreation, geared to those activities for which solitude and self-reliance are the primary values. Recreation facilities in this zone will be very primitive. Campsites will have fire rings and the simplest form of privy available. It may be appropriate to construct tent platforms at some campsites in order to reduce the impact of use. Picnic tables may be appropriate for some backcountry campsites. Boat launches are not appropriate beyond a simple path to the water's edge, as all boats will be carried in by hand. Boats with small motors are acceptable on the larger ponds (Deboullie and Gardner) but motors should not be allowed on the smaller ponds. The Bureau will petition the appropriate regulatory agencies to prohibit use of motors on the fly-fishing-only ponds including Denny, Galilee, Upper, Island, Stink and Little Black Ponds.

Historically, the backcountry area has been used almost exclusively by fishermen during peak fishing seasons (late spring and early fall). The backcountry area offers great potential summer camping and hiking which would increase public use but should not significantly increase pressure on sensitive fisheries or diminish the primitive recreation experience. The Bureau will create additional campsites in the backcountry zone and expand the hiking trail network as outlined on the Recreation Facilities map (page 16). The proposed trails and new campsites will provide for extended hiking and camping trips where users could camp at different locations on consecutive nights.

Expansion of the trail network should greatly enhance enjoyment of this zone. It encompasses a number of steep mountains and other scenic locations. The Bureau will create these trails during the 10-year period as long as user surveys indicate need for further expansion. These trails will be cut with a minimum disturbance but will include occasional off-trail cutting of trees in order to provide scenic vistas for trail users.

At the top of Deboullie Mountain, there is a firetower and ranger cabin. Neither of these have been used by the Maine Forest Service since 1984 although they remain on the "active" firetower list. The Maine Forest Service will be requested to make a final decision on whether to maintain these facilities. The firetower offers climbers magnificent views of the surrounding area; however, safety considerations may dictate limitations on public use. The Bureau will work with the Maine Forest Service to assure that public use is safe. If this means complete removal of the tower, the Bureau will cut trees to open scenic vistas while being careful to avoid harm to the general appearance of the area.

Within the backcountry zone, all road access will be eliminated or restricted to infrequent commercial logging activities. The purpose of this change is to protect the remote, quiet experience for recreationists. Elimination of road access will cause some inconvenience for fishermen on Black, Little Black, Galilee, Crater and Gardner Ponds. The Bureau may require that Red River Camps provide boats for public use at those ponds. These boats would be available for rent by users other than the Camp's guests who would get the key by arrangement from Red River Camps.

(3) Secondary Use. Backcountry areas can accommodate very limited secondary uses. Special protection of fragile resources is, of course, compatible. Some wildlife management activities will also be compatible. In some parts of the backcountry, timber management can occur.

B. GENERAL RECREATION

(1) Description of Resource. This zone is comprised generally of the ponds along the Deboullie Road corridor and extends past Island Pond, where Red River Camps are located, to the easternmost shore of Deboullie Pond. It encompasses the areas in Deboullie which have received the heaviest use in the past and where 17 primitive campsites are located. Red River Camps, a traditional Maine sporting camp, caters to fishermen and hunters. The camp is privately operated

under a lease from the Bureau of Public Lands. The "general recreation" area is similar to most of the backcountry area in character, but has been more readily accessible by vehicles.

(2) Dominant Use. The dominant use in this area is recreation of the type normally associated with motor vehicles, but the level of development will remain primitive and dispersed. The campsites will accommodate small parties and will be equipped with fire rings, privies, and picnic tables. The campsites will be designed to accommodate pickup campers and tent trailers; however, these sites will not accommodate motor homes or large trailer combinations. Red River Camps provides for more comfortable recreation accommodations while maintaining the primitive recreation experience. It provides rustic accommodations for guests, meals, canoe rentals, and guide services; the camps preserve the type of recreational use which derives from long-standing tradition throughout Maine. The Bureau intends to permit this use to continue as long as the lessee maintains a high-quality, but simple recreation facility. Through special provisions in the lease, the Bureau will assure compliance with these objectives. The Bureau may also require Red River Camps to perform additional services for public use, including use of their boats on certain ponds.

A number of short trails to the ponds within this area are currently maintained by the owners of Red River Camps. In conjunction with the development of trails in the backcountry zone, the Bureau will coordinate plans for extending the hiking trail network in the general recreation zone as well. A few new campsites are planned, and sites that currently suffer from overuse will be rehabilitated. The simple boatlaunch sites at Togue, Perch, Island, Pushineer and Deboullie Ponds will be maintained for small watercraft only.

Winter use in Deboullie is made difficult by the deep winter snows. Snowmobilers generally find the snow too deep and soft to be appealing for their use, and cross-country skiers have found the area too remote for frequent use. If either type of use increases, the Bureau will consider expanding road or trail networks. Snowmobile use may be prohibited in the backcountry zone at some time in the future, but levels of use today are so low as to cause no conflicts•

The North Maine Woods Association, a consortium of private landowners, manages recreation use on all of the privately owned lands which surround Deboullie Township. North Maine Woods controls access at their gatehouses, where they also provide public information services and collect fees for public use in non-winter months. The Association maintains campsites for public use, including the campsites in Deboullie under a special contract with the Bureau of Public Lands. While the Bureau generally does not charge for use on public lands, it has accepted the need to cooperate through NMW with the private landowners whose roads and lands must be used by the public to reach Deboullie Township. The Bureau may change its contract for campsite maintenance with NMW, but will continue to cooperate with this organization.

Upon completion of current development and rehabilitation projects, the Bureau will confine its recreational activities principally to maintenance of existing facilities and monitoring use and user impact. In the event that use becomes so heavy as to jeopardize either the resource or the primitive experience which draws people to this area, the Bureau may introduce a checkpoint system to regulate and distribute use. This p* probably would be located at a convenient access point, such as the intersection of the Deboullie and Chase Pond Roads just west of Togue Pond, where a place for people to register could be easily maintained. If needed, the Bureau will work with North Maine Woods Association to establish such a system to distribute use without significantly diminishing the primitive quality of the recreation experience.

(3) Secondary Use.

Under proper constraints, timber and wildlife are compatible secondary uses within the General Recreation Zone. In fact, to the extent that timber harvesting may be designed primarily to enhance wildlife habitat it would enrich the

recreation experience of viewing wildlife and by creating openings in the forest it can add to scenic enjoyment of vistas. Some of the major constraints on harvesting in this zone include as a minimum: a 500-foot modified harvest zone (selection cuts) around developed recreation areas; a 200-foot modified harvesting zone along trails; and coordination of all roadside harvesting with the staff recreation planner to preserve scenic quality. Harvesting within this zone will be proposed and reviewed in accordance with compartment examinations and review, as provided in existing policy.

C. VISUAL RESOURCES

(1) Description of Resource. Visual resources in Deboullie are comprised largely of the features in the southeast quarter of the township. Here, the contrasts of deep forest, sudden elevations, exposed granite cliffs and bright, sequestered ponds combine to create an unusually diverse and aesthetically pleasing environment. There are also a number of lesser elevations --south of Togue Pond and north of Black Mountain-- which have at least a secondary influence on the overall visual experience. Public access roads, too, as defined in the Bureau's resource policy, fall within the visual resource management zone. This includes the St. Francis and Deboullie Roads, as well as the potential access corridor identified east of Perch Pond.

(2) Dominant Use. Those intangible values --natural beauty, diversity, contrast, etc.-- associated with scenic quality constitute the dominant use of these areas, the purpose of which is to preserve or enhance the visual experience for visitors to the township. For the most part, these values are protected by existing allocations (resource protection, recreation and wildlife), which govern the types of activities permitted in certain areas (e.g., no timber harvesting in resource protection areas). In other areas where visual quality is important, visual management will be the responsibility of recreation staff, which may target areas for different types of treatment to enhance natural beauty (overlooks, periodic roadside openings etc.) --but, as a minimum, will coordinate visual considerations where timber operations and/or development activities may be exposed to public view.

(3) Secondary Use. It is important to note that designation of a visual zone does not constitute any sort of prohibition. It is merely a caution, acknowledging the need for care in the exercise of any management activity. Therefore, in those visual zones, where more restrictive provisions do not otherwise apply, all types of management activity are permissible; and this includes timber harvesting under appropriate constraints. For example, on the high ground south of Togue Pond and north of Black Mountain (distant view from the ridgetop), harvesting will most likely be limited to selection removals and designed to maintain crown closure. By contrast, along trails and public access roads, harvesting may include small patch cuts to create vistas or to break up the "wall" effect of continuous forest edge.

D. RECREATION USE OF ALL OTHER AREAS

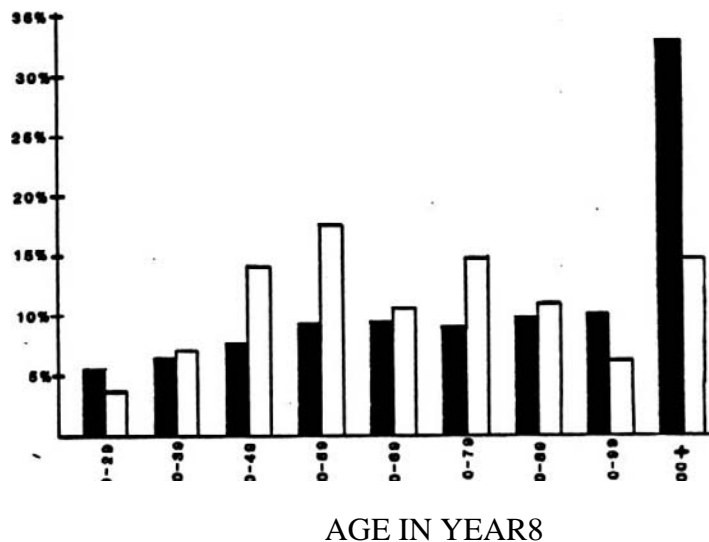
Throughout the rest of the township, (areas without shading on the map on page 15) recreation will be a secondary use. Most of this area is without features of interest to recreationists, but may be used by hunters and persons who want to explore the backwoods. Most of this area is allocated for dominant timber use; the Bureau's timber management guidelines will assure that environmental quality is protected and, except when harvest operations are underway, the area will be attractive for public use. Hunters will be asked to keep their distance from active timber operations for safety reasons.

TIMBER

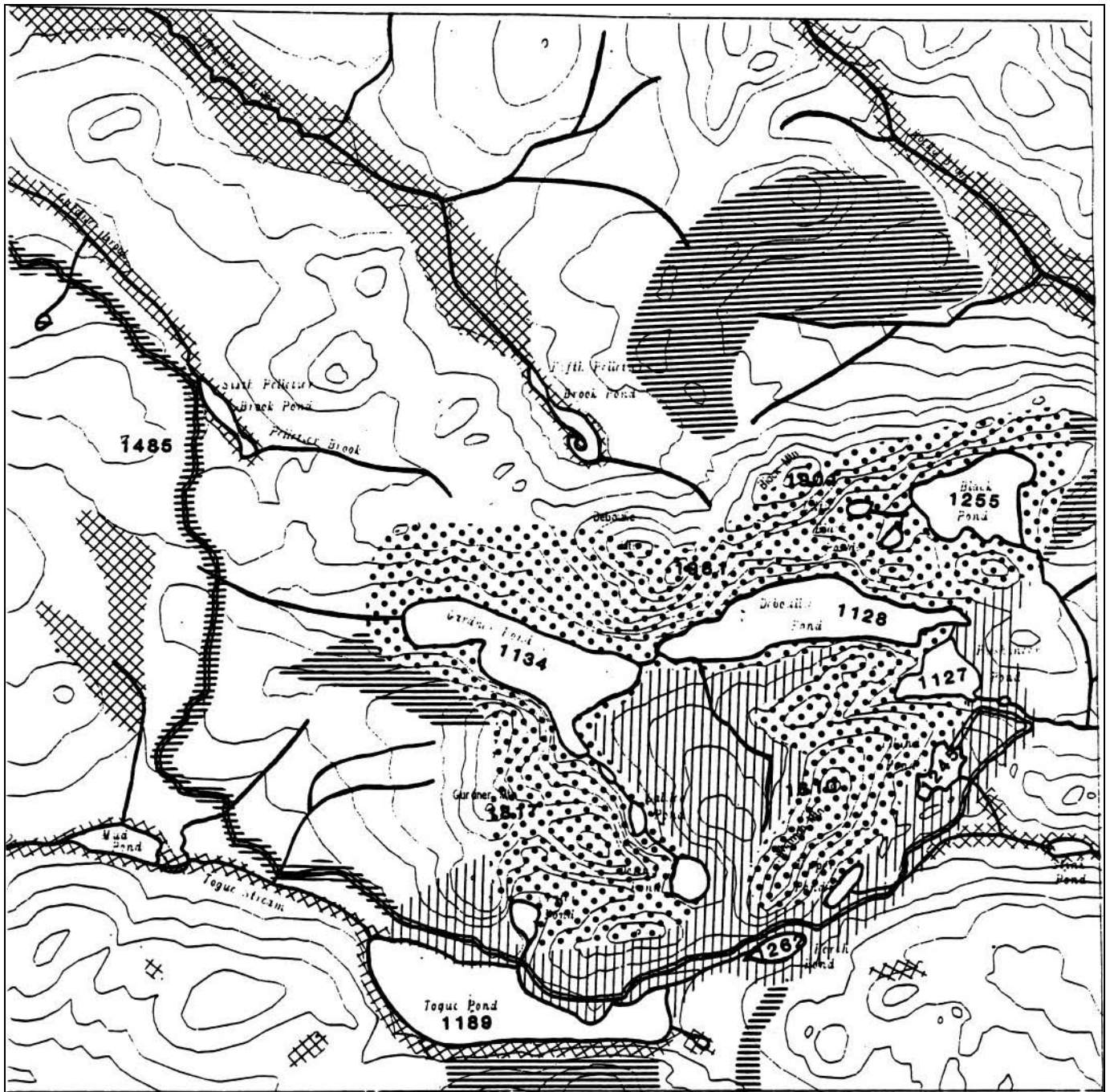
TIMBER (refer to map on page 23)

This township has been subject to repeated harvesting since the mid-1800's, the most recent of which occurred in 's and '60's. Responding to markets existing that time, operators removed mostly softwood logs pulp and the higher quality hardwood logs for veneer. In addition, modest salvage harvesting in the 70's, in northern sections of the township, was designed to remove fir and spruce jeopardized by the spruce budworm.

Today's forest is comprised of mixedwood (42%), softwood (33%) and hardwood (25%), with the softwood stems accounting for slightly more than half of the total. (The timber statistics presented in this section includes only stems 5" and above*) Hardwood tends to dominate the higher, better drained sites. While softwood is most common along streams and in areas of poor drainage, a significant portion (up to 25%) of the older softwood is located on steep slopes and at relatively high elevations. The softwood is comprised chiefly of fir and spruce with lesser amounts of cedar. The hardwood component is represented by sugar maple, yellow birch, beech, red maple, white birch and poplar. In softwood types, the greater number of stems occur in the 30- to 80-year age-classes --and include a substantial number of older stems up to 100+ years. Hardwoods reflect a fairly balanced distribution between 30 and 100 years; but about one-third of all hardwood is 100+ years, much of it In low-quality residuals from past log/veneer harvests. Distribution of age-classes by forest type and volume is reflected in the following summary:



With the exception of the older (100+) hardwoods which were left by highgrading, the timber is in generally good condition, free of diseases and growing at reasonable rates. Those softwoods which survived the budworm epidemic have recovered well and now reflect improved vigor. The trees that were killed by budworm, mostly fir, are beyond salvage. For the most part, pole-sized and small sawtimber stems (6"^M-14"^H in hardwood and 4"^H-10" in softwood) are of good quality and have the potential in many areas to produce high-quality material. Exceptions occur on exposed sites and in very dense softwood where ice and snow damage in late 1983 caused considerable localized damage. With respect to overall size and age-class distribution, all types reflect a notable lack of stems under 30 feet in height --a situation which, at present, has more serious implications for wildlife (lack of diversity) than for sustained timber production.



TIMBER MANAGEMENT AREAS

DEBOULLIE MANAGEMENT UNIT PUBLIC RESERVED LANDS SYSTEM

Dots	NO HARVEST
Cross hatch	MODIFIED HARVEST-wildlife/riparian
Vertical lines	MODIFIED HARVEST-recreation
Horiz lines	MODIFIED HARVEST -visual
Blank	NO SPECIAL RESTRICTIONS

By forest type, timber in this unit is comprised as follows:

TYPE	ACRES	% OF UNIT AREA
Regulated forest	18,804	79.7%
[Sftwd-6,167 ac/33%]		
[Mxdwd-7,849 ac/42%]		
[Hdwd -4,671 ac/25%]		
Unregulated Forest	3,075	13.1%
[Non-forest]	1,699	7.2%

*NOTE: Regulated Forest is that portion of the forest in which harvesting may be expected to proceed at a rate approaching merchantable growth and upon which the annual allowable harvest is calculated. Unregulated Forest is that portion of the landbase which, although forested, may not be harvested at commercial rates and is not included in annual allowable cut calculations. In Deboullie, the unregulated forest consists principally of overmature ridgetop growth, growth which occupies inoperable slopes and areas set aside.

(2) Timber as the Dominant Use. Commercial production of forest products is the dominant use in those areas designated for timber without special requirements on the map on page 23). Broad management objectives include: (1) a more balanced distribution of age-classes to ensure sustained production, (2) improved growth and wider distribution among those species with the highest potential value (spruce, fir, yellow birch and sugar maple) and (3) improvements in overall forest diversity as it relates to species, age-classes and stem height.

To meet these objectives, management activities during the next 10-year period should be directed at three primary targets:

(A) The large volume of 100+/-year-old hardwood, much of which is of low quality, should be reduced substantially --although some should be retained to meet old growth and wildlife objectives.

(B) The mature to over-mature softwood volume (more than a quarter of the softwood inventory) will be examined closely for opportunities to regenerate stands or improve the growth on existing stems. Toward this goal, most of the fir should be harvested, while much of the spruce --having potential for further growth-- should be retained and/or thinned. Because much of this volume is widely scattered throughout mixed and hardwood stands, much of it probably will not be harvested unless markets for other species in those stands improve to enable their sale at the same time.

(C) Many of the stands regenerated during the last major harvesting should be thinned to improve growth rates and timber quality. Areas subject to budworm salvage harvests in the late '70's will be examined for needed cultural treatments.

Because of poor market conditions and scattered distribution of target stems/stands, these goals may not be readily achieved during the current plan period. For example, hardwood removals of 1,500-2,000 cords per year are desirable. However, existing markets are limited to a few hundred cords of firewood annually and are unlikely to improve significantly in the near future. Similarly, biomass markets, which could at least cover management and operating costs, are not available. Among softwood types, removal and shelterwood operations targeting fir are limited by the cost effectiveness of operating in scattered stands or in areas where the volume of wood per acre falls below commercial levels --a common situation, despite the fact that many of these stands contain quality stems.

(3) Secondary Uses in Timber Dominant Zones. Because wildlife habitat extends throughout the timber zone, wildlife is the principal secondary use --and all timber operations must be coordinated for this purpose (see Integrated Resource Policy). Recreation is also a secondary use in this zone, although the area will probably attract little use other than dispersed hunting.

(4) Timber as a Secondary Use. In all shaded areas on the map on page 23 except the no-harvest area, timber is a secondary use. Management will, in most instances, be less intensive, and timber production per acre will be somewhat reduced. There is one section of the backcountry zone south of Deboullie Pond and west of Whitman Mountain consisting of 300 acres of high quality hardwood and spruce stands with potential for timber managements. It is possible to access these stands just east of Denny Pond with a road (which would not be available for public use)* Using selection harvest techniques to maintain crown cover and limiting harvest activities to non-recreation seasons (after October 1) this area can be managed for timber without significantly affecting the backcountry values, particularly if it is managed to maintain a significant old growth component in the area* However, there is considerable interest developing today that would preserve representative portions of the Maine forest in a natural, undisturbed condition -- known as forest preserves -- for the benefit of future scientific study. Because this area is in the center of an already protected "no-harvest"¹¹ area as designated in this plan, it may be decided in the future that this 300-acre area should also be preserved for study purposes. Therefore, no harvest will occur in the next ten years to allow time to develop a more complete set of requirements for "preserve status" and to see what the final determination for this area should be.

(5) No-Harvest Area. The map on page 23 indicates an area around Gardner, Deboullie, and Black Ponds where no harvesting will occur. This area includes almost all of the areas needing "special protection" because of rare plants and blueback trout. It also includes the most significant old growth stands which exist today largely because of steep slopes and difficult access. Most of the area is designated for backcountry recreation; people who are drawn to the backcountry would most likely be disturbed by ongoing timber management activities. The Bureau also recognizes that there is important scientific purpose to maintaining undisturbed areas and considers this particular area to be most appropriate for that purpose. Except for clearing trails and campsites, no timber harvesting will ever occur in this no-harvest area.

SECTION V - RELATED ISSUES

This section addresses a variety of issues which are essentially administrative in nature, but which may have an impact on resource programs*

A. ACCESS (refer to maps on pages 28 and 29)

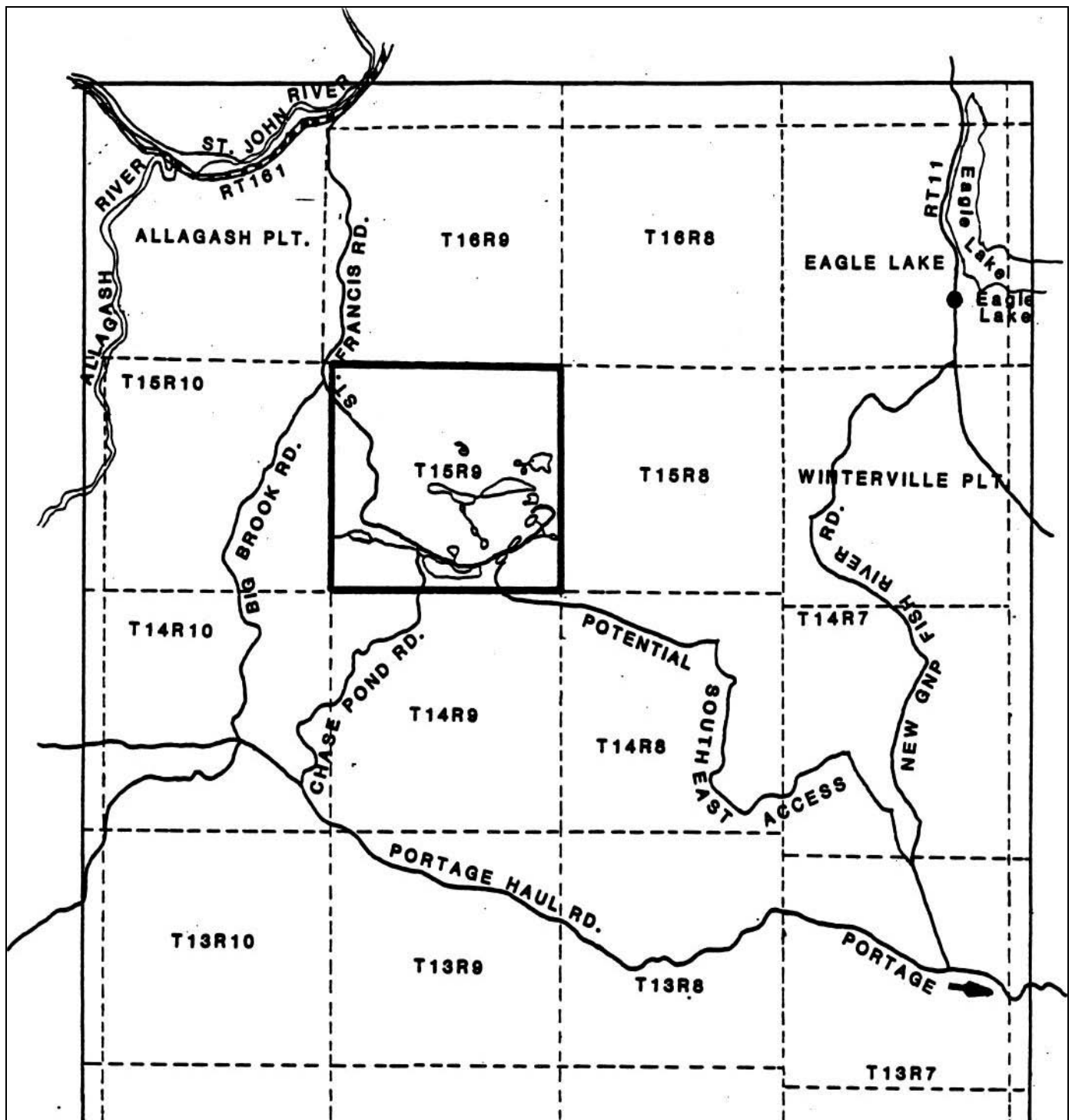
Questions of access are subdivided into essentially three parts: (1) public vehicle access to the

unit, (2) public vehicular access within the unit, and (3) access for management purposes.

(1) Public Access to the Unit* The Deboullie Management Unit is situated within North Maine Woods Association boundaries, a 2.8 million-acre area of mostly private ownership served by private roads. All traffic to the Deboullie Unit, whether for public or commercial purposes, must travel over these roads, subject to the conditions and regulations of the private landowners who comprise the Association.

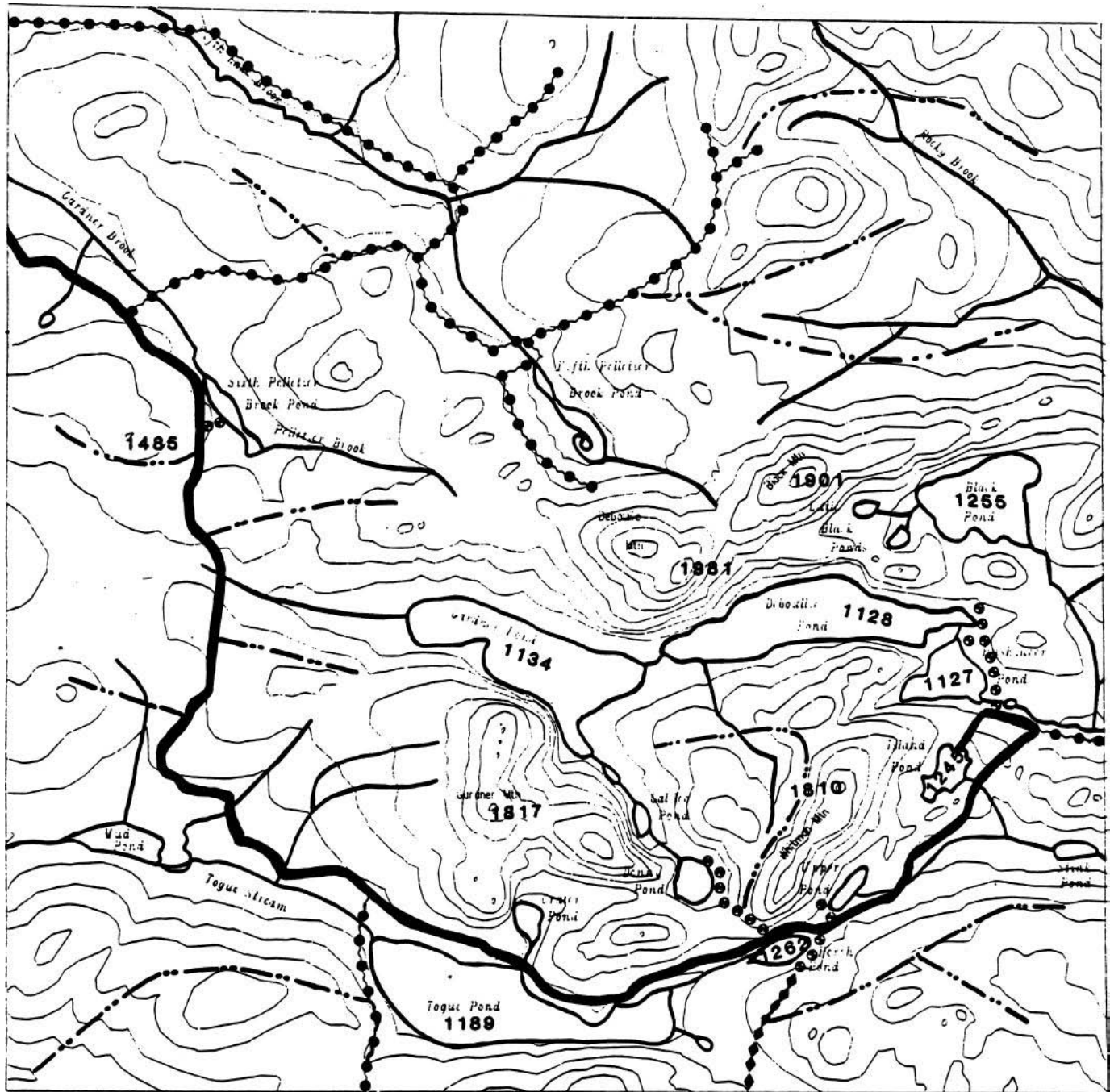
Historically, access to the township has changed as road maintenance and timber harvesting by surrounding landowners has changed over the years. More than ten years ago the major access was by roads from St. Francis and entered T 15, R 9 at the northwest corner (The St. Francis Road) and on a road southeast from Perch Pond that followed North Pond Brook toward Portage. More recently, when those roads deteriorated, the Chase Pond Road provided access; but steep hills on that road made maintenance difficult and expensive. Improvements in 1985 to the Big Brook Road have led the Bureau to decide to rely on access from the northwest again for the foreseeable future.

The Bureau will maintain one access point for public use. Because it is desirable to preserve the remoteness of Deboullie, no more than one access will be provided. Based on road maintenance decisions by surrounding landowners, the Bureau may shift this access commitment to different road systems in order to keep costs to a minimum. Wherever it is located, the principal access road will be maintained to allow non-four-wheel-drive vehicles access to Deboullie. However in keeping with the primitive character of the area, the road will be maintained to minimal standards allowing only low-speed travel.








LOCATION and ACCESS

DEBOULLIE MANAGEMENT UNIT
PUBLIC RESERVED LANDS SYSTEM



TRANSPORTATION
DEBOULLIE MANAGEMENT UNIT
PUBLIC RESERVED LANDS SYSTEM

	MAIN ACCESS PUBLIC USE ROAD
	SECONDARY PUBLIC USE ROAD
	MANAGEMENT ROAD
	POTENTIAL MANAGEMENT ROAD
	POTENTIAL SECONDARY PUBLIC USE ROAD

The access map on page 28 indicates a potentially good location for a road that could be constructed near Perch Pond and connect to a new road system that may be developed by Great Northern Paper Company in T 14, R 8. Their road network would feed into their Fish River Road and join the public highway system at Portage. If developed, it could provide shorter access to some U.S. timber markets and may be preferable to the St. Francis Road for public access.

The St. Francis Road provides north-south travel in the township, while the Deboullie Road serves east-west travel, beginning at the intersection of the Chase Pond Road just west of Togue Pond and carrying traffic to Red River Camps on Island Pond. These two roads are available for public vehicular use as well as spur roads to the following ponds:

Togue	Perch
Upper	Island
Pushineer	Deboullie
6th Pelletier	Denny

In the event that a southeast access is developed, the northern portion of the St. Francis Road may someday be maintained only to standards suitable for the timber management program.

Fording the Red River below Pushineer Dam, the Deboullie Road currently extends to the east shore of Deboullie Pond. Because there is no bridge across the Red River and the road is in poor condition, this road is passable only to high clearance, 4-wheel-drive vehicles at low or moderate water levels. The environmental impacts of fording the river here appear to be negligible due to the rocky bottom. The campsites at Pushineer and Deboullie Ponds that are accessed by this road spur are extremely popular and users have indicated a strong desire for continued road use. Therefore, the Bureau will continue to allow vehicles to ford the Red River at this location and will continue to manage the campsites at Pushineer, the Thoroughfare, and the east end of Deboullie Pond as vehicle access sites. The ford will be posted to warn users against use at high water.

In the spring mud season, roads are especially vulnerable to damage by even light vehicles. Unfortunately this has been a serious problem in Deboullie. Ice out in Togue Pond does not occur until the second week in May, while the open water fishing season begins May 1. To protect the public's considerable investment in the Deboullie road system, the Bureau will install a temporary gate near the township line to prohibit road use during that season if road conditions are particularly vulnerable to costly damage. Any closing of this gate will be publicized in advance.

All other roads in and into the township (including unauthorized vehicle access from the east to Black Pond, which is zoned by LURC as PRR - no vehicle access) will be closed to public vehicular access*. Also, as provided in 12 MRSA ss 552, public use of ATV's anywhere on the Public Reserved Lands and off-road travel by any vehicle other than snowmobiles is prohibited. This paragraph does not limit, in any fashion, foot travel throughout the township. Indeed, management roads are generally available for hiking and (in winter, except for plowed roads) snowmobiling and cross-country skiing.

The area allocated for backcountry use cannot sustain intensive or high-impact use; and, for this reason, public travel in this area is restricted to foot traffic and the use of watercraft which can be carried in and launched by hand. Ponds to which vehicular travel is expressly prohibited include:

Crater	North Little Black
Galilee	South Little Black
Stink	Gardner
Black	Beaver
Mud	5th Pelletier

(3) Access for Management Purposes. Again, the primary road system is comprised of the St. Francis and Deboullie roads, with additional traffic being directed over the Chase Pond Road. As previously noted, except for the Chase Pond Road, these are all-purpose roads, serving both public and operational traffic. However, as provided in existing policy, log landings will not be permitted on these roads; and all roadside timber harvesting will include provisions mitigating visual impacts.

In addition to this "trunk" system, the Bureau will also develop such roads as are necessary to gain access to timber and may be used only by Bureau personnel for this and administrative purposes. These roads will not be available for public vehicular use. This secondary system of roads will be temporary in nature and may not be maintained at the conclusion of operations. New construction of this type is currently planned for Compartment 9 (west of Togue Pond) and Compartments 2 and 5 (east of 5th Pelletier Brook) to gain access to timber in the southwest and northeast sections of the township* Other potential management roads have been identified on the Transportation map on page 29-

B. CANADIAN MARKETS

There are few northern timber markets serving the Deboullie Management Unit --especially for hardwood products and low quality products of all species. This poses a severe handicap for management. While seeking to expand U.S. markets (chiefly boraass and fuelwood), the Bureau will take advantage of larger Canadian markets nearby, consistent with statutory provisions regulating such commerce (35 MRSA ss 1560), which limit shipments to Quebec except when U.S. markets are either unavailable or offer greatly less competitive prices. The Bureau's policy is always to service U.S. markets first.

C. CREW CAMP

Because of Deboullie's remoteness, the cost of travel by Bureau personnel to get to the township is unreasonably high. Additionally, the heavy recreation use of the township may require full time recreation staff during peak seasons. For these reasons the Bureau intends to construct a crew camp suitable for simple housing of timber marking crews, recreation management staff, and other administrative staff somewhere conveniently located near the main Deboullie Road system. This camp will not be constructed in a prime recreational use area.

D. MINERALS

Limited geologic investigations of Deboullie have indicated potential for deposits of molybdenum, copper and precious metals. Until more information is collected, however, it is impossible to plan intelligently for any type of extraction of minerals. Given the other values of the backcountry, resource protection, and no-harvest zones, no mineral extraction will be allowed in those zones. Other parts of the township may be suitable for mining, but no decision will be made at this time.

Good gravel is a scarce commodity in this area. Gravel extraction and ripping of ledge for road maintenance will be allowed only for roads within the township. Care will be taken to minimize the visual effects of extraction.

E. MILITARY OVERFLIGHTS

Bombers and fighter planes based at Limestone frequently fly low-altitude training flights over Deboullie. While the Bureau recognizes the need for military training, there seems to be no compelling need to conduct these directly over high-value recreation areas such as Deboullie. The low-altitude jets create extremely loud noise that devastates the peaceful solitude for users of the area. The Bureau will seek relief from this flight pattern from the proper federal authorities.

F. PUBLIC INFORMATION

Because the characteristics that are most prized by users of Deboullie are dependent on maintaining the remoteness and solitude of the Township, the Bureau will deliberately avoid promotional efforts that could cause significant increases in useage. Also, the Bureau will take pains in developing public information materials to emphasize the area's wild, primitive character so that people accustomed to more developed facilities are not drawn by mistake to the area. Finally, the Bureau will develop signs and other user information systems that do not create a sense of regulation and that do not detract from the sense of discovery and adventure that appeal to users of Deboullie today.

SECTION VI - SUMMARY OF MAJOR DECISIONS AND ACTIONS

The decisions and actions in this plan may be summarized as directed toward three general goals:

(1) Protection of Special Resources. The township includes an interesting collection of several rare plant species and four of the ten ponds in Maine that are habitat for the rare blueback trout. These will be protected by a variety of measures.

The exceptional fishing for brook trout, togue, and landlocked salmon (in addition to blueback trout) draws people to Deboullie in numbers that have put these fisheries at some risk. The Bureau will work closely with the Department of Inland Fisheries and Wildlife to adopt regulations that protect the quality of the fishery and to assure consistent and strict enforcement of fishing laws.

Deboullie is renowned for its natural beauty. Blessed with steep mountains that provide breathtaking views of the ponds and forest-covered slopes, Deboullie has important visual resources that will be protected by appropriate restrictions on development, road building and timber harvesting.

(2) Character of the Area. Deboullie's reputation as a wonderfully remote and unspoiled area suitable for primitive recreation will be preserved by this plan. Recreation facilities will be scattered and will be designed to cater to those who seek simplicity. The Bureau will expand the number of remote campsites and develop a series of interconnecting trails to create better hiking opportunities. Access to the township will be provided at only one point, and public use roads will be maintained only to allow low-speed vehicle use. Large areas will be placed off-limits to all motor vehicles to provide areas for quiet, primitive recreation. Public information materials will emphasize this character and will avoid

undue promotion of the area.

(3) Land and Resource Allocation. In establishing management objectives for different uses of Deboullie's resources, this plan provides for multiple use of the lands according to the "dominant"¹¹ and "secondary" use system previously developed by the Bureau. Forty-four percent of the area is zoned for non-timber dominant uses -- wherever resources need protection or there is demand for recreation. Included in this area are approximately 3500 acres where no timber harvesting or other disturbances will be allowed. The remaining 56% of the area will be managed primarily to produce timber for Northern Maine's economy, while allowing the Bureau's dispersed recreation and wildlife habitat management standards to be met. For the next 20 years, timber removals will be light, as the forest needs more time to respond to the harvests that were conducted 15-30 years ago.

GENERAL STATISTICS

APPENDIX A

A. Sources of Title

Parcel	Acres	Year	Landowner	Resolve	Book/Page	County
PL	500	1853	State	n/a	10/83	Aroos
PL	500	1854	State	n/a	5/129	Aroos
C/U	14,099	1975	GNN	C 03	424/102	Aroos
C/U	1530	1984	Pingree	C. 76	632/22	Aroos
C/U	5242	1985	Gris/McCr	C. 87	664/254	Aroos
	21871					

B. Abutters:

T16 R8	GNN et als.
T15 R8	GNN
T14 R8	GNN
T14 R9	GNN
T14 R10	GNN
T15 R10	GNN
T16 R9	Consolidated Rambler Mines Ltd., et als (Irving)
Allagash	Consolidated Rambler Mines Ltd., et als (SE Section)

C. Management Authority:

12 MRSA ss 552; 30 MRSA ss 4162; Planning Policies for the Public Reserved Lands (6/11/85); Integrated Resource policies for the Public Reserved Lands (12/30/85).

D. Land Cover Classifications:

Cover Class	Acres	% of Unit
Forest	21,762	92.8
Lakes/ponds	1,404	6.0
Brooks/bogs	175	0.7
Ledges	30	0.1
Roads/development	90	0.4
	23,461	100.0

APPENDIX B. Pre-Planning Public Advisors

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State House, Station #36
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USER DAYS BY DESTINATION

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APPENDIX D - BLUEBACK TROUT SUMMARY

The following material is excerpted from a 1986 report on the blueback charr (commonly referred to as blueback trout) in Deboullie Township by Frederick W. Kircheis, Fishery Research Biologist with the Maine Department of Inland Fisheries & Wildlife.

"Blueback charr (Salvelinus alpinus oquassa) are descendents of anadromous arctic charr (Salvelinus alpinus) which became isolated from the sea about 15,000 years ago and established landlocked populations in Northern New England and Maritime Canada (Kircheis 1980). Although genetically similar to arctic, Sunapee, and Quebec red charr, differences in coloration are striking enough so that blueback charr are considered by some scientists to be unique populations of subspecies £. alpinus oquassa (Kornfield et al. 1981).

"Little is known of the population structure and dynamics of blueback charr. We know that they inhabit the upper portion of the hypolimnion and feed primarily on plankton (Waters 1980). However, very little is known of their spawning habits and attempts to capture spawning fish in Deboullie Lake from mid-September to the first weeks of November, 1959, were unsuccessful (Waters 1960).

"Blueback charr are found in 10 waters in Maine. Four of these, Gardiner, Black, Deboullie Lakes and Pushineer Pond, are located in the Deboullie-Red River Township (Township 15 Range 9) in Aroostook County. T15 R9 has recently been acquired by the Maine Bureau of Public Lands and plans to improve access to this remote area have raised concern about increased fishing pressure and its possible impact on the blueback charr populations.

"Effective management of fish populations is dependent on a full understanding of the species life history and ecology, hence this project was designed to study spawning habits and other population characteristics of the blueback. Primary goals of this project were to collect information on fecundity; spawning date; location, behavior and sex ratio of spawning populations; water temperature at the time of spawning; and a description of the eggs (size, color). In addition, the total communities in three study waters in T15 R9 were to be described, especially size structure and population numbers so that standing crops and biomass determinations could be made.

"The three waters surveyed during this project, Black Lake, Deboullie Lake, and Pushineer Pond, are located in T15 R9 in north-central Aroostook County, Maine. The northern boundary of the township is about 24 km from Quebec, Canada, and the western boundary is about 19 km east of the Allagash River.

"Deboullie is the largest lake studied and has an area of 105 ha. It is at an elevation of 344 m and has a maximum depth of 30 m. The major inlet is a short (200 m) stream which is the outlet of Gardner Lake; only one other small stream enters the lake in the southwest corner, east of the Gardner Lake Stream. The outlet of Deboullie flows into Pushineer Pond through a short (100 m) thoroughfare.

"Pushineer Pond has a surface area of 22 ha and a maximum depth of 17 m. It is at an elevation of 344 m and the thoroughfare from Deboullie is the only inlet. The outlet of Pushineer Pond is the headwater of the Red River. It is currently partially blocked by an old driving dam.

"Black Lake is located about one km northeast of Deboullie Lake. It is at an elevation of 346 m, has a surface area of 59 ha, and a maximum depth of 29.5 m. The only inlet enters from the Little Black Ponds on the west shore and the outlet flows from the southeast corner of Black Lake for about 2 km before it joins the Red River about 1.5 km below Pushineer Pond. This outlet is currently blocked by a beaver dam right at the lake.

"All three study waters are spring fed, deep, cold and oligotrophic. Blueback charr have been reported from all three waters.

"The major spawning period for the blueback charr in Black Lake occurred during the fourth week of October. This corresponded with rapidly falling water temperatures in the area. Although no eggs were recovered, it appears that bluebacks are spawning over shoals and not depositing eggs in redds. The shoals where bluebacks concentrated in Black Lake consisted primarily of boulder and rubble materials ranging in size from a few centimeters to a meter or more in diameter.

"Blueback charr in Pushineer Pond may spawn during a different time period or at other locations than the shoals we were able to net. It may also be that blue-backs which have been reported from Pushineer Pond in past surveys originated from a spawning population in Deboullie Lake. The netting we did in 1985 clearly showed an upstream movement by brook charr through the Deboullie-Pushineer thoroughfare and it is certainly feasible that there could be a downstream movement of bluebacks during another season. Some of these questions could be answered with an intensive long-range mark and recapture study using trap nets and gill nets. This is not feasible at this time due to legal constraints on the use of gill nets, financial and manpower restraints, and logistical problems.

"Fecundity of blueback charr from Black Lake was greater than that reported for Sunapee charr (Salvelinus alpinus) from Floods Pond, Maine. Average blueback fecundity is 3,190 eggs/kg of female body weight and Sunapee charr fecundity is about 2,500 eggs/kg of body weight (Kircheis 1976).

"Deboullie Lake supports the largest numbers of brook charr of the three study waters (3,071 fish) and Black Lake the fewest (142 fish). The estimate for Pushineer Pond (368 fish) should be tempered with the knowledge that a number of fish marked in Pushineer were recaptured in Deboullie. If the mark-recapture data for Deboullie and Pushineer are combined and the two waters treated as one because of the movement of brook charr between the two, the combined population estimate of brook charr is 2,279 ($1,646 < N < 3,702$). The text delineates the ranges of these estimates but it is apparent that the total number of brook charr in these waters is not high. The basic fertility in the area is low due to the sterile conditions of the granite bedrock and growth rates for the fish are slow due to the short growing season and low food supply.

"Black lake is known to produce some very large brook charr. During this study only one very large specimen was netted; there may be several reasons for this. As already stated, the basic fertility is low, population numbers are low and Black Lake does not have extensive brook charr spawning areas. It seems logical that Black Lake does not have very many of these trophy-size brook charr and that increased fishing pressure, as has been experienced during the recent past, could easily eliminate the few very large brookies that are produced. It is likely that the very large brook charr result from their feeding on the numerous small blueback charr over a long period of time. This is a unique, complex system and every care should be taken to preserve it in its present state."

APPENDIX E

DEBOULLIE: All REGULATED FOREST - 18687 Acres

Species	Total per acre -5" and above					Stems per acre		
	Stems	Cords	Bas Area (sq ft)	Percent of stand BA	Avg. DBH	5-9"	10-16"	16"+
Spruce	36.4	3.7	14.6	16.5%	8.6"	25.6	10.4	.4
Fir	80.8	4.5	23.1	16.1%	7.2"	70.2	10.6	-
Cedar	7.5	1.1	5.3	5.9%	11.3"	3.2	3.4	.9
Note: Although white pine and hemlock are found on the town, only negligible amounts of the former were tallied in cruising.								
Yel. birch	21.8	2.3	10.1	11.4%	9.2"	14.5	6.3	1.0
W. birch	7.9	.4	2.1	2.3%	6.9"	7.7	.2	-
Sug. maple	32.8	3.5	15.2	17.1%	9.2"	22.2	8.9	1.7
Red maple	16.7	1.4	6.2	6.2%	8.3"	12.8	3.6	.3
Beech	15.0	2.2	9.6	9.6%	10.8"	6.8	7.1	1.1

Other HW	11.1	.4	2.5	2.5%	6.4"	10.5	.6	-
All HW	105.6	10.2	45.6	51.5%	8.9"	74.7	28.8	4.1
All SW	124.6	9.3	43.0	48.5%	8.0"	98.9	24.4	1.3
Note: Due to rounding off, some discrepancies in the totals occur.								
	Stems	Cords	Bas Area (sq ft)	Percent of stand BA	Avg. DBH	5-9"	10-16"	16"+
All Stems	230.4	19.5	88.6	100%	8.4"	173.7	50.3	5.4
				Basal area (sq ft):		40.3	38.1	10.3

APPENDIX E
DEBOULLIE: HfRDWOOD-4671 Acres

	Total per acre -5" and above					Stems per acre		
Species	Stems	Cords	Bas Area (sq ft)	Percent of stand BA	Avg. DBH	5-9"	10-16"	16"+
Spruce								
Fir								
Cedar								
Note: Although white pine and hemlock are found on the town, only negligible amounts of the former were tallied in cruising.								
Yel. birch								
W. birch								
Sug. maple								
Red maple								
Beech								
Other HW								
All HW								
All SW								
Note: Due to rounding off, some discrepancies in the totals occur.								
	Stems	Cords	Bas Area (sq ft)	Percent of stand BA	Avg. DBH	5-9"	10-16"	16"+
All Stems								
				Basal area (sq ft):				

APPENDIX E
DEBOULLIE: MIXEDWOOD - 7849 Acres

	Total per acre -5" and above					Stems per acre		
Species	Stems	Cords	Bas Area (sq ft)	Percent of stand BA	Avg. DBH	5-9"	10-16"	16"+
Spruce								
Fir								
Cedar								
Note: Although white pine and hemlock are found on the town, only negligible amounts of the former were tallied in cruising.								
Yel. birch								
W. birch								
Sug. maple								
Red maple								
Beech								
Other HW								
All HW								
All SW								
Note: Due to rounding off, some discrepancies in the totals occur.								
	Stems	Cords	Bas Area (sq ft)	Percent of stand BA	Avg. DBH	5-9"	10-16"	16"+
All Stems								
				Basal area (sq ft):				

APPENDIX E
DEBOULLIE: SOFTWOOD – 6167 Acres

	Total per acre -5" and above					Stems per acre		
Species	Stems	Cords	Bas Area (sq ft)	Percent of stand BA	Avg. DBH	5-9"	10-16"	16"+
Spruce								
Fir								
Cedar								
Note: Although white pine and hemlock are found on the town, only negligible amounts of the former were tallied in cruising.								
Yel. birch								
W. birch								
Sug. maple								
Red maple								
Beech								
Other HW								
All HW								
All SW								
Note: Due to rounding off, some discrepancies in the totals occur.								
	Stems	Cords	Bas Area (sq ft)	Percent of stand BA	Avg. DBH	5-9"	10-16"	16"+
All Stems								
				Basal area (sq ft):				

